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Author(s): W. Linwood Chase

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SUBJECT PREFERENCES OF FIFTH- GRADE CHILDREN

W. LINWOOD CHASE¹

Boston University



A PARTICULAR interest in the field of elementary-school social studies and a realization that many children in elementary-school classrooms were not enthusiastic about their work in history, geography, or the social studies led the writer to set up an investigation of pupils' subject preferences on the fifth-grade level. The investigation was facilitated by the co-operation of the New England School Development Council, a regional study group. The study was carried on as a co-operative enterprise of fifteen graduate students, each of whom wrote a Master's thesis as part of the project. Five of the students, on leaves of absence, were in residence at Boston University, but the other ten were in-service teachers and principals. Through the joint project, all the students seemed to gain a better understanding of how co-operative research might be carried out in a school system than if each of them had undertaken independent, individual research.

¹ Stuart E. Dean and George A. Prescott, teaching fellows at Boston University, aided the writer in the preliminary analysis of the total project manuscript.

THE STUDY

The method used.—The subject preferences of every fifth-grade child in sixty-five New England towns and cities were determined through a check list given each pupil in December, 1947. The check list carried the names of the subjects studied and was divided into three columns. In the first column the child was asked to use the figures 1, 2, and 3 to indicate his first, second, and third preferences. In the second column he was requested to circle the letter which indicated how he felt about each subject. For example, he circled *L* if he liked the subject very much; *N*, if he neither liked nor disliked it; and *D*, if he disliked it very much. In the third column he drew a circle around the word which told whether he thought the subject *easy* or *hard*.

The reliability of the check list was determined by the test-retest method, using 653 children in one city. No significant differences in order of subject preferences or in percentages of preferences were found.

RESULTS OF THE STUDY

Subject preferences.—Table 1 shows the rank order of subject preferences and the number and per cent of first choices of 13,483 fifth-grade children in New England. In order to discover whether or not the preferences shown in Table 1 were peculiar to New Eng-

land, the same check list was given in a southwestern city in December, 1948. The preferences of 2,350 fifth-grade children in this city are shown in Table 2.

Comparing and combining the two sets of pupil preferences.—Although the order is somewhat different in

TABLE 1
RANK ORDER OF PREFERENCES, FIRST CHOICES ONLY, OF 13,483
FIFTH-GRADE CHILDREN IN NEW ENGLAND

Boys and Girls	Number of Choices	Per Cent	Boys	Number of Choices	Per Cent	Girls	Number of Choices	Per Cent
1. Reading....	3,060	22.70	1. Arithmetic...	1,597	23.04	1. Reading....	1,531	23.36
2. Arithmetic...	2,998	22.24	2. Reading....	1,529	22.06	2. Arithmetic...	1,401	21.39
3. Art.....	2,389	17.72	3. Art.....	1,286	18.56	3. Art.....	1,103	16.84
4. Social studies	1,268	9.40	4. Social studies	834	12.03	4. Music.....	820	12.52
5. Spelling....	1,268	9.40	5. Spelling....	516	7.44	5. Spelling....	752	11.48
6. Music.....	1,241	9.20	6. Science....	425	6.13	6. Social studies	434	6.62
7. Science....	609	4.52	7. Music.....	421	6.07	7. Science....	184	2.81
8. Health education....	316	2.34	8. Health education....	195	2.81	8. Penmanship.	159	2.43
9. Penmanship.	258	1.92	9. Penmanship.	99	1.43	9. Health education....	121	1.85
10. Language....	76	0.56	10. Language....	30	0.43	10. Language....	46	0.70
Total....	13,483	100.00	Total....	6,932	100.00	Total....	6,551	100.00

TABLE 2
RANK ORDER OF PREFERENCES, FIRST CHOICES ONLY, OF 2,350
FIFTH-GRADE CHILDREN IN A SOUTHWESTERN CITY

Boys and Girls	Number of Choices	Per Cent	Boys	Number of Choices	Per Cent	Girls	Number of Choices	Per Cent
1. Reading....	633	26.93	1. Reading....	324	27.86	1. Reading....	309	26.03
2. Art.....	524	22.30	2. Art.....	278	23.90	2. Art.....	246	20.72
3. Arithmetic...	454	19.32	3. Arithmetic...	252	21.67	3. Music.....	227	19.12
4. Music.....	333	14.17	4. Music.....	106	9.12	4. Arithmetic...	202	17.02
5. Spelling....	178	7.57	5. Spelling....	84	7.22	5. Spelling....	94	7.92
6. Social studies	116	4.94	6. Social studies	57	4.90	6. Social studies	59	4.97
7. Penmanship.	51	2.17	7. Penmanship.	23	1.98	7. Penmanship.	28	2.36
8. Science....	25	1.06	8. Science....	22	1.89	8. Health education....	11	0.93
9. Language....	18	0.77	9. Language....	10	0.86	9. Language....	8	0.68
10. Health education....	18	0.77	10. Health education....	7	0.60	10. Science....	3	0.25
Total....	2,350	100.00	Total....	1,163	100.00	Total....	1,187	100.00

New England preferences than in the southwestern preferences, reading, arithmetic, and art are in the first three places in each; social studies, spelling, and music are in the next three places. When the results for New England and the southwestern city are combined, as in Table 3, the combined figures place music a little higher, and social studies a little low-

jects because it was not taught in all the towns and cities involved in this study, nor even in all the classrooms in those communities in which it was supposedly a part of the curriculum.

Analyses have not been completed on the southwestern city's pupil preferences. The remainder of this report, therefore, deals only with the check lists of the New England pupils.

TABLE 3
RANK ORDER OF PREFERENCES, FIRST CHOICES ONLY, OF 15,833 FIFTH-GRADE CHILDREN IN NEW ENGLAND AND A SOUTHWESTERN CITY

Boys and Girls	Number of Choices	Per Cent	Boys	Number of Choices	Per Cent	Girls	Number of Choices	Per Cent
1. Reading....	3,693	23.32	1. Reading....	1,853	22.89	1. Reading....	1,840	23.78
2. Arithmetic...	3,452	21.80	2. Arithmetic...	1,849	22.84	2. Arithmetic...	1,603	20.72
3. Art.....	2,913	18.40	3. Art.....	1,564	19.32	3. Art.....	1,349	17.43
4. Music.....	1,574	9.94	4. Social studies	891	11.01	4. Music.....	1,047	13.53
5. Spelling.....	1,446	9.13	5. Spelling.....	600	7.41	5. Spelling.....	846	10.93
6. Social studies	1,384	8.74	6. Music.....	527	6.51	6. Social studies	493	6.37
7. Science.....	634	4.01	7. Science.....	447	5.52	7. Science.....	187	2.42
8. Health education...	334	2.11	8. Health education...	202	2.50	8. Penmanship...	187	2.42
9. Penmanship...	309	1.95	9. Penmanship...	122	1.51	9. Health education...	132	1.70
10. Language...	94	0.60	10. Language...	40	0.49	10. Language...	54	0.70
Total....	15,833	100.00	Total....	8,095	100.00	Total....	7,738	100.00

er, in preference than they were for New England alone.

While it is recognized that each subject area has a contribution to make to the educational growth pattern of a child, it is disturbing to persons particularly interested in social studies to find a subject like spelling more popular than social studies. Obviously, those persons who are interested in the teaching of language should be concerned about its great lack of popularity. Science, which does not appear to be very popular, suffers further in comparison with other sub-

Sex differences.—The study shows significant differences between boys and girls in their preferences for the different school subjects.

In this phase of the study, as in other aspects to be reported, the basic statistical techniques used were a determination of percentages for each selected category, a difference of per cent between the categories compared, and application of a test of significance to this difference in per cent. Critical ratios of 3.00 or greater were taken to indicate true differences.

In first choices alone, and in com-

bined first, second, and third choices, geography, history, social studies, science, and health education were significantly preferred by the boys to a greater extent than by the girls. Penmanship, spelling, and music were significantly preferred by the girls to a greater extent than by the boys. In combined, but not in first choices, boys favored art; girls, language.

separately, there are fewer children in the analysis of teacher preferences than in the pupil preferences shown in Table 1.

Comparisons were made between the children who chose the same subject as their teachers' preference and the other children who chose that subject but whose teachers did not. In combined choices, true differences

TABLE 4

RANK ORDER OF FAVORITE SUBJECTS OF 543 TEACHERS TEACHING 12,999 PUPILS AND PER CENT OF PUPILS CHOOSING THE TEACHER'S PREFERENCE AMONG THEIR FIRST THREE CHOICES

SUBJECT	TEACHERS		NUMBER OF PUPILS TAUGHT	PER CENT OF PUPILS CHOOSING TEACHER PREFERENCE IN THEIR CHOICES			
	Number	Per Cent		First	Second	Third	Combined
1. Arithmetic.....	221	40.68	5,251	24.26	16.28	11.88	52.42
2. Social studies.....	70	12.89	1,680	10.24	11.67	11.01	32.92
3. Geography.....	67	12.34	1,576	6.22	8.38	7.68	22.28
4. Reading.....	64	11.79	1,570	25.86	15.54	14.52	55.92
5. History.....	38	7.01	965	8.60	12.12	12.12	32.84
6. Language.....	38	7.00	906	2.31	4.30	3.75	10.36
7. Music.....	23	4.24	530	14.34	14.91	14.53	43.78
8. Science.....	12	2.21	267	6.37	12.36	8.24	26.97
9. Art.....	9	1.66	244	24.59	13.93	13.93	52.45
10. Spelling.....	1	0.18	10	30.00	0.00	10.00	40.00

There were no significant differences in arithmetic and reading.

Teacher preferences.—Each teacher was asked to indicate the subject which he most enjoyed teaching. No teacher chose either penmanship or health education. Table 4 shows that the rank order of teacher preferences for subjects in many areas is considerably different from the order of pupil preferences. Since some teachers failed to indicate preferences and others listed "social studies" when their pupils were studying history and geography

were found in favor of following teachers' preferences in arithmetic, language, geography, history, social studies, music, and science. In first choices only, this was also true for reading. There was no significant difference in art. The boys significantly followed their teachers' preferences in geography, history, and social studies more than did the girls, while the reverse was true in music.

Content, skills, and aesthetic subject preferences.—Another approach to an analysis of the preference data was

made by investigating tendencies of pupils to make their choices of the three subjects they liked best in the content, skills, or aesthetic areas. One-sixth of the population of the whole study—all fifth-grade children in five communities—was used in this particular analysis. The school subjects were classified in three broad areas: (1) content, which included reading, geography, history, and science, (2) skills, which included arithmetic, penmanship, and spelling; and (3) aes-

that girls prefer skills and aesthetic subjects more than boys do.

Differences in age and intelligence.—Do dull, normal and superior children and those above average age, of average age, and below average age in fifth grades share similar interests in their subject preferences, or are there marked differences that are peculiar to each group? This phase of the study was made in only one town, but all the children (352) in the fifth grades were included. No true differences were

TABLE 5
ANALYSIS OF PREFERENCES OF 6,849 PUPILS FOR CONTENT, SKILLS,
AND AESTHETIC SUBJECTS

Subjects	Per Cent of 3,615 Boys	Per Cent of 3,234 Girls	Critical Ratio	In Favor of—
Content.....	39.25	29.99	7.29	Boys
Skills.....	33.61	38.53	4.29	Girls
Aesthetic.....	27.14	31.48	3.43	Girls
Total.....	100.00	100.00

thetic, which included art and music. Language and health education were omitted because of the varying emphasis placed on the former in different school systems and because of the likelihood that some children might have included physical education in choosing the latter.

A technique of "saturation" was developed for analyzing these areas. If any pupil selected two of his three choices in one of the broad classifications, his preferences were considered to be in the area of his majority choice. Table 5 shows that boys prefer content subjects more than girls do, and

found in any of the age-level or intelligence-level comparisons, or in any interrelationships between the two levels, in the four subject areas of arithmetic, reading, art, and the social studies which were the only subjects investigated. A study of all the critical ratios obtained do not reveal any trends.

Preferences in relation to achievement.—To determine the relationship between preferences for arithmetic and reading and achievement in those subjects, another investigation was carried out in one town having 225 pupils in its fifth grades. Means were

computed for the reading and arithmetic sections of the Iowa Every-Pupil Tests of Basic Skills for the total fifth-grade group and compared with the means of the various choice groups. Only the group which made reading its first choice was significantly superior in achievement over the total fifth-grade group. In arithmetic there were no significant differences.

readers of high achievement, and pupils having scores lower than one standard deviation below the mean were selected as readers of low achievement. The first, second, and third choices in all subjects were found for all pupils in each group. Table 6 shows the school subject and choices, with the group favored in three series of critical ratios. It will be noted that, in

TABLE 6

SUMMARY OF CRITICAL RATIOS OBTAINED ON DIFFERENCES IN PERCENTAGES
BETWEEN 149 HIGH-ACHIEVEMENT AND 132 LOW-ACHIEVEMENT
READERS IN CERTAIN SUBJECT PREFERENCES

Critical Ratio	Subject and Choices	Group Favored
3.00 and above	Reading—first choice Arithmetic—first choice Reading—combined choices Reading—first choice Arithmetic—first choice	High over low Low over high High over low Girls high over girls low Girls low over girls high
2.99 to 2.50	Reading—combined choices Reading—first choice Arithmetic—first choice Art—first choice Art—combined choices	Girls high over girls low Boys high over boys low Boys low over boys high Boys low over boys high Boys low over boys high
2.49 to 2.00	Art—first choice Art—combined choices	Low over high Low over high

Preferences in relation to reading achievement.—Another phase of the study was concerned with an analysis of the subject preferences of high-achievement readers as compared with low-achievement readers. Two communities with 1,102 fifth-grade pupils were selected. In one community reading scores were taken from the Stanford Achievement Test and in the other, from the Metropolitan Achievement Test. Pupils having scores higher than one standard deviation above the mean were selected as

all subjects except reading, arithmetic, and art, differences were so insignificant that they do not appear in the table.

Children's evaluation of the difficulty of disliked school subjects.—Another phase of the preference study dealt with the subjects which were marked as disliked on the check list and whether they were considered "easy" or "hard." It is interesting to note in Table 7 that 13,483 children recorded only 10,266 dislikes, an average of less than one disliked subject a child.

Boys had a somewhat higher average in this respect than girls.

Statistical analysis of the data in Table 7 show that:

1. When school subjects are disliked by pupils, reading, language, penmanship, science, and health education are found to be significantly easy.

2. When disliked by pupils, arithmetic, spelling, geography, history, social studies, and art are found to be significantly hard.

Children's evaluation of the difficulty of well-liked school subjects.—Another investigation in the relative difficulty of school subjects, similar to the one on disliked subjects, was made in respect to those subjects recorded by the children as liked very much. The data give evidence that:

1. In well-liked school subjects, boys significantly favor arithmetic, science, history, geography, and social studies, whereas

TABLE 7
RANK ORDER OF SUBJECT DISLIKES OF 13,483 FIFTH-GRADE CHILDREN

Boys and Girls	Number of Choices	Per Cent	Boys	Number of Choices	Per Cent	Girls	Number of Choices	Per Cent
1. Language...	1,519	14.80	1. Language...	1,076	16.88	1. Geography...	532	13.67
2. Arithmetic...	1,209	11.78	2. Music...	923	14.48	2. Arithmetic...	526	13.51
3. Penmanship...	1,184	11.53	3. Penmanship...	869	13.64	3. History...	486	12.48
4. Music...	1,113	10.84	4. Arithmetic...	683	10.72	4. Language...	443	11.38
5. Geography...	950	9.25	5. Spelling...	578	9.07	5. Science...	397	10.20
6. Spelling...	787	7.67	6. Geography...	418	6.56	6. Social studies	299	7.68
7. Science...	717	6.98	7. Art...	368	5.77	7. Art...	245	6.29
8. History...	700	6.82	8. Health education...	355	5.57	8. Health education...	234	6.01
9. Art...	613	5.97	9. Science...	320	5.02	9. Penmanship...	215	5.52
10. Health education...	589	5.74	10. History...	314	4.93	10. Spelling...	209	5.37
11. Social studies	545	5.31	11. Social studies	246	3.86	11. Music...	190	4.88
12. Reading...	340	3.31	12. Reading...	223	3.50	12. Reading...	117	3.01
Total....	10,266	100.00	Total....	6,373	100.00	Total....	3,893	100.00

3. No true difference between ratings of easy and hard was found for music when disliked.

4. Boys significantly dislike language, penmanship, music, and spelling more than do girls.

5. Girls significantly dislike arithmetic, geography, history, social studies, and science more than do boys.

6. No true differences between boys and girls were found in rating art, health education, and reading as easy or hard when disliked.

girls significantly favor spelling, music, penmanship, and language.

2. Boys significantly find art, arithmetic, science, history, geography, and social studies easier than do girls, but girls find spelling, music, penmanship, and language easier.

3. In the subjects well liked but considered difficult, there were only three in which there were any true differences between boys and girls. Boys consider spelling and health education more difficult than do the girls, but girls consider only art more difficult than do boys.

A LOOK AHEAD

Obviously the study just reported is a status study. It simply shows the preferences among school subjects of 13,483 fifth-grade pupils and the significant differences between them. The study has not tried to indicate why some subjects may be more popular than others or why, in light of the data revealed, we should or should not try to bring about any changes.

Perhaps this preference study has provided a little further insight into pupil behavior, but more research of a different nature is needed. One other aspect of the total project not yet reported was a beginning in that direction. It attempted, through a comprehensive check list, to determine the differences in the teaching of the social studies between high-rated and low-rated classrooms. The ten classrooms where children preferred social studies more than any other subject were selected as the high-rated classrooms, and the ten classrooms where social studies received no, or scarcely any, preference votes were the low-rated classrooms. The investigator

used an observation check list and an interview check list. He visited all twenty classrooms a half-day each and held an interview of an hour and a half to two hours with each of the twenty teachers. Even with such a small number of classrooms at each end of the scale, the differences in practices and procedures were so marked as to lead one to conclude that these differences contributed heavily to the opinions and judgments of the pupils concerning social studies.

We need to assess the results obtained in this study against the goals that are set as the objectives of elementary education and, in light of that assessment, bring about desirable changes. It might more properly be said that we need to work out definite, concrete plans for reducing the lag between the discovery of better ways of teaching school subjects and the application of those better ways in all our classrooms. On the basis of this preference study, a doctorate research is being made on the relationship of preference and achievement; and still further research is being scheduled.